

Bi/V bimetal 함유 티타니아 나노입자의 제조 및 친수성능 평가

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Recently, the TiO₂ application has attracted a good deal of attention on purification and treatment of water and air, which are concerned in the protection of the environment. In particular, the TiO₂ nano-sized powder has been widely used not only for their high photo-catalytic activity but also for their photo-induced super-hydrophilic properties. In particular, the photo-catalytic activity of metal/Ti binary oxides were enhanced compared to pure Ti oxide in many literatures. In our previous study, we could also find that transition metals (Me³⁺ or Me⁵⁺) incorporated TiO₂ anatase framework generated Brønsted acid sites, which could be more draw water molecules. The nano-sized metal oxides, Bi_xTi_{1-x}O_y, V_xTi_{1-x}O_y, and Bi_xV_yTi_{1-(x+y)}O_z are prepared by solvothermal method in this study. In addition, we have tried to find out the relationship between their physical properties and photocatalytic activity, particularly super-hydrophilic property.

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